**Question 1**

**Write a program implementing insert, delete and display operation of Circular Queue.**

#include<stdio.h>

int circularq[100];

int front=-1, rear=-1, size;

void enqueue(int x)

{

if((rear==size-1 && front==0) || (rear==(front-1)%(size-1)))

printf("Overflow\n");

else if(front==-1 && rear==-1)

{

front=0;

rear=0;

circularq[rear]=x;

}

else if(rear==size-1 && front!=0)

{

rear=0;

circularq[rear]=x;

}

else

{

rear++;

circularq[rear]=x;

}

}

void dequeue()

{

if(front==-1 && rear==-1)

printf("Underflow\n");

int data = circularq[front];

if(front==rear)

{

front=-1;

rear=-1;

}

else

{

if(front==size-1)

front=0;

else

front++;

}

printf("Deleted element: %d\n", data);

}

void display()

{

int i;

if(front==-1)

printf("Underflow\n");

else

{

if(rear>front)

{

for(i=front; i<=rear; i++)

printf("%d ",circularq[i]);

printf("\n");

}

else

{

for(i=front; i<size; i++)

printf("%d ",circularq[i]);

for(i=0; i<=rear; i++)

printf("%d",circularq[i]);

printf("\n");

}

}

}

int main()

{

printf("Enter the size of the circular queue: ");

scanf("%d", &size);

enqueue(10);

enqueue(20);

enqueue(30);

enqueue(40);

enqueue(50);

display();

enqueue(60);

dequeue();

enqueue(60);

display();

}